

EGU2020-10853

<https://doi.org/10.5194/egusphere-egu2020-10853>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



## Reconstructing the Early Eocene Sediment Routing System of the south-eastern Pyrenees

Miguel Garcés<sup>1</sup>, Miguel López-Blanco<sup>1</sup>, Elisabet Beamud<sup>2</sup>, Josep Anton Muñoz<sup>1</sup>, Pau Arbués<sup>1</sup>, Luis Valero<sup>3</sup>, and Andreu Vinyoles<sup>1</sup>

<sup>1</sup>Geomodels Research Institute, Earth and Ocean Dynamics Dept, Universitat Barcelona, Barcelona, Spain

([mgarces@ub.edu](mailto:mgarces@ub.edu))

<sup>2</sup>Paleomagnetic Laboratory CCiTUB-ICTJA, Institute of Earth Sciences Jaume Almera, CSIC-Universitat Barcelona, Barcelona, Spain

<sup>3</sup>Department of Earth Sciences, University of Geneva, Switzerland

The Early Eocene was the period of most intense plate collision during the building of the Pyrenean orogen. Tectonic loading of the overriding European plate caused flexure of the subducting Iberian plate and formation of an elongated foredeep connected westward with the Atlantic Ocean. The uneven distribution of the Triassic evaporites caused the formation of a thrust salient in the central Pyrenees related to tectonic inversion of the pre-existing Mesozoic rift basins. This process ultimately resulted in the partitioning of the foreland basin and the isolation of the Ripoll Basin in the East from the Tremp-Graus and Ainsa-Jaca basins in central and western south-Pyrenees. The precise timing and the surface processes related to this reorganization of the sediment routing system remains not fully understood. Early tectono-stratigraphic reconstructions envisaged a scenario of isolation of the eastern Pyrenean Foreland basin in the early Eocene, while other recent studies on detrital zircon geochronometry suggest that the sedimentary transfer system in the Tremp-Graus basin connected upstream to the Ripoll basin until middle Lutetian times. In this contribution we discuss constraints on the early Eocene paleogeography of the south-eastern Pyrenees in the light of a revised chronostratigraphic scheme. We put forward a scenario that tries reconciling all available structural, stratigraphic, petrologic, geochronologic, and sedimentologic datasets.

**How to cite:** Garcés, M., López-Blanco, M., Beamud, E., Muñoz, J. A., Arbués, P., Valero, L., and Vinyoles, A.: Reconstructing the Early Eocene Sediment Routing System of the south-eastern Pyrenees, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-10853, <https://doi.org/10.5194/egusphere-egu2020-10853>, 2020